



# **U.S. Army Dugway Proving Ground, UT**

## **and the West Desert Test Center**

***Michael Glass, Ph. D.  
Chief, Special Programs Division***



**The Nation's Chemical & Biological Defense Proving Ground**



# Dugway Proving Ground

1,300 sq. miles

Restricted airspace  
(58,000 ft)

**U.S. Army  
Dugway Proving  
Ground, UT**

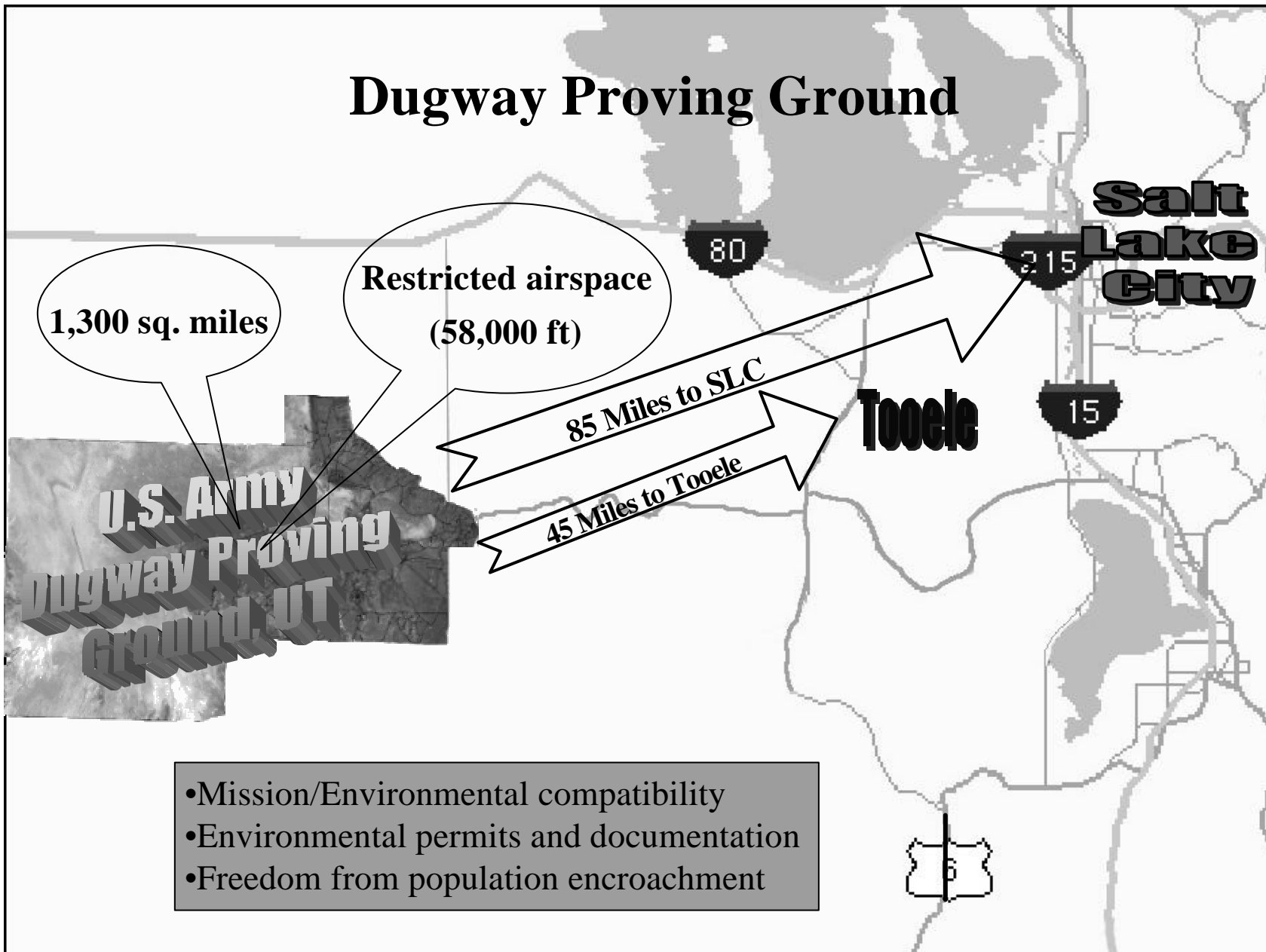
85 Miles to SLC

45 Miles to Tooele

**Tooele**

**Salt  
Lake  
City**

- Mission/Environmental compatibility
- Environmental permits and documentation
- Freedom from population encroachment





## *WDTC Mission*



To exceed our customer's expectations in:

- Testing chemical/biological (C/B) defense material, smokes/obscurants, illuminants and munitions.
- Applied research to develop new methods for C/B testing, and meteorological measurement, modeling.
- Verification/validation of models, war fighters/first responder operations.
- Technology transfer to first responder with timely and complete access to top-notch C/B defense material and C/B simulants in live-fire scenarios.
- Emission characterization and environmental technology testing.
- Perform as program manager for Army RDT&E meteorology and program manager Joint/CINC Operational Testing, DL-O49.

**WMD-CST Support Site**

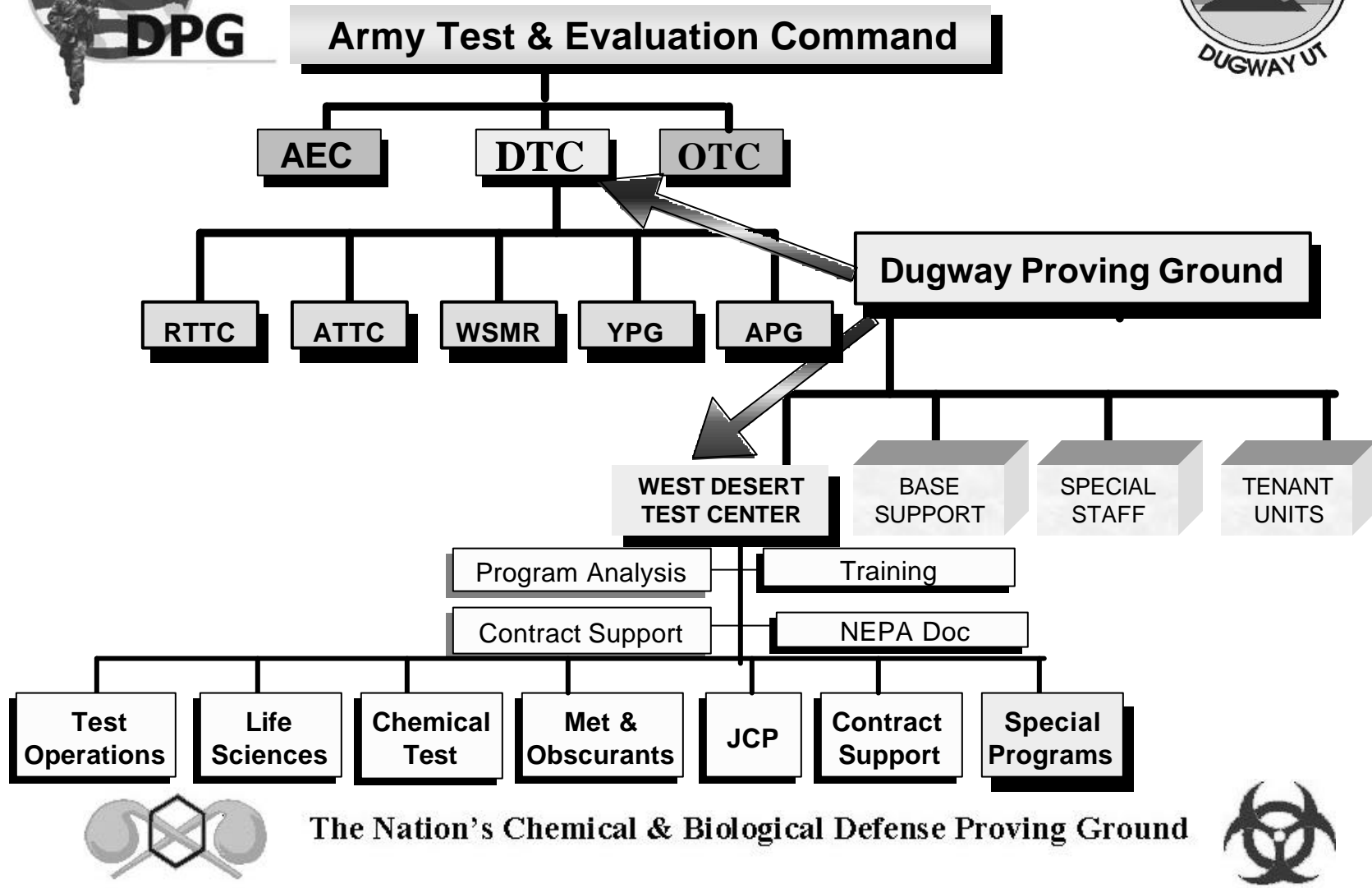


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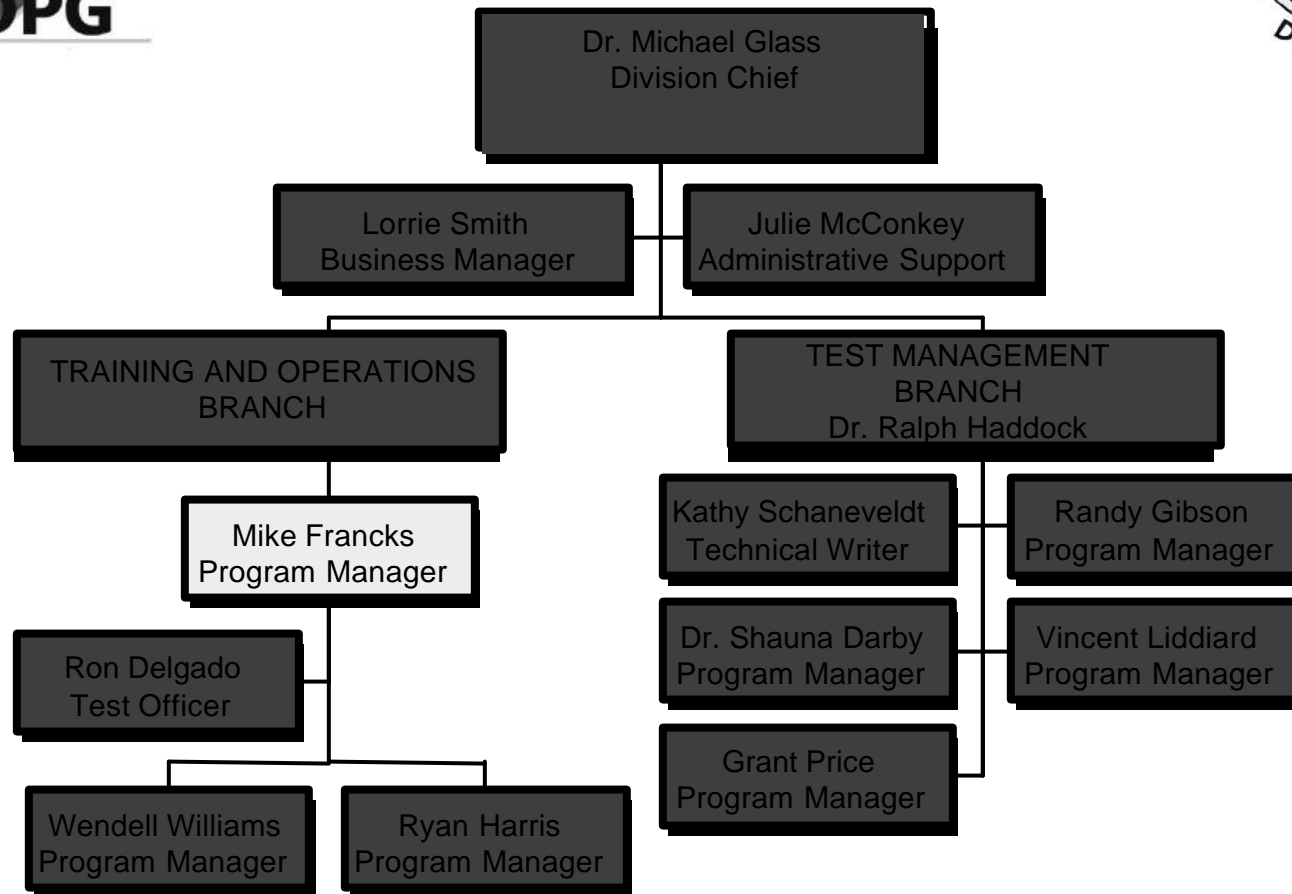


# Command Relationship





## *Special Programs Division*



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## *Test Infrastructure*



### Labs



Rec

**\$500 Million Estimated  
Book Value**

ns Center

**Lothar Salomon  
Life Sciences Test Facility**

### Buildings



**Michael Army Airfield**



**Melvin Bushnell  
Materiel Test  
Facility**



**Defensive Test Chamber**



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## *Training Ranges*



- 1,300 square miles of controlled access, multipurpose grid areas & facilities
- Certified to test with C/B simulants
- Independently evaluate & test C/B detection, protection, & decontamination equipment
- Validate tactics, techniques, & procedures



Test Grids



German Village



Wig Mountain



Target S



Granite Mt. Training Area



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## *Range Communications*



Cell Phone  
Tower Sites

- Fiber Optic Network
- 32 Channels of Video
- 7 Communications Consoles with 20 Radio Nets and Phone Patch
- Over 40 Communication Drops & Cell Phones
- Centralized Voice, Data & Video Communications in Mission Control Center
- Data Speed: 100 MB/sec
- Ethernet Connections
- Commercial Power to most Sites

**Cell Phone Activation May '01**



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# *Logistical Support*



- **Ground Transportation and Maintenance**

- Vehicle Support
- 2 Maintenance Facilities

- **Medical and Emergency Services**

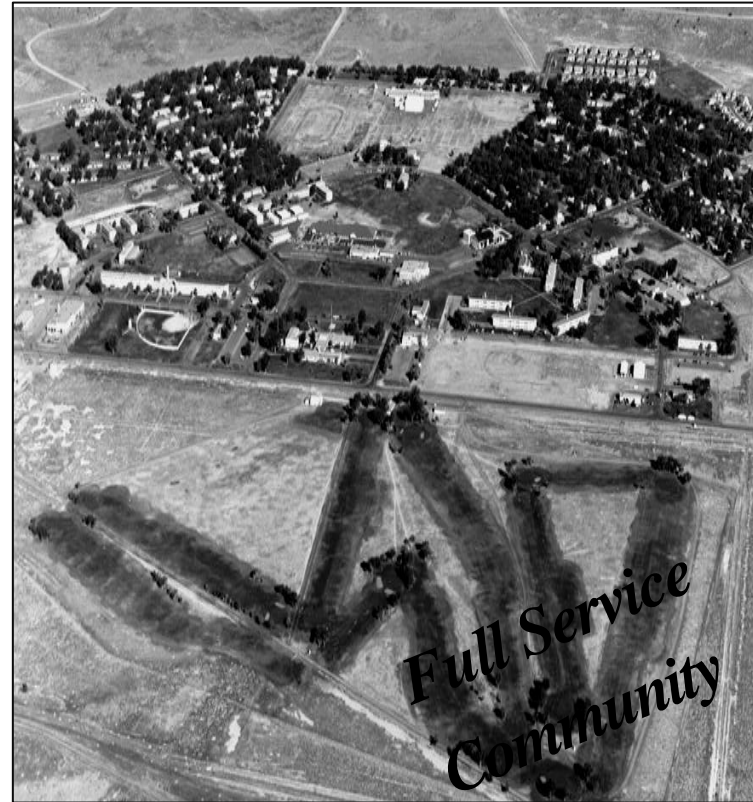
- Clinic, and Aid Stations
- 7 Ambulances
- 2 Fire Stations

- **Billeting**

- VIP Accommodations
- Dormitories
- Community Club, Commissary

- **Recreation**

- Golf
- Bowling
- Theater
- Exercise Facility



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# DPG Homeland Defense Initiatives

**Field Training**

**Laboratory Instruction**

**Graduate Level Classroom**

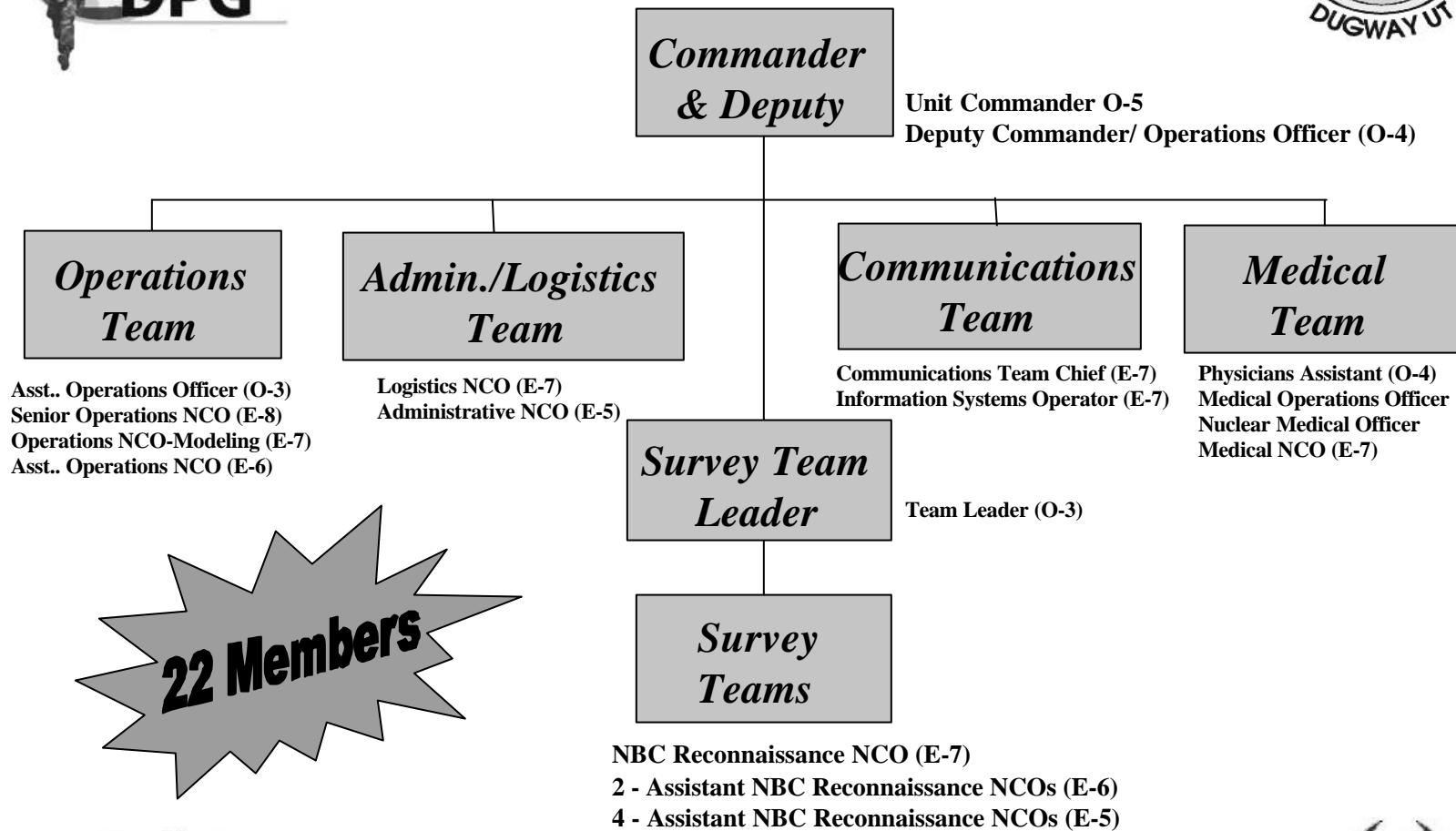
**Equipment Certification**

**Tech Information Support**

***DPG Capabilities***



# WMD/CST Unit Organization



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# Field Training Programs



- Tailored to Unit Objectives
- Use of simulated CBW agents with unique disseminations
- Realistic Scenarios with role players
- Immediate feedback from SME's (Ph.D. Level)
- Interim After Action Reviews (AAR's) and Formal After Action Reviews
  - Exercise Video
  - SME input
- Results are confidential



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## Raid Challenge Exercise



- 10 Day Exercise including 5 separate Day Long “Free Play” Iterations
- Training Only, Not a test or Certification
- Unit Fully Deploys with all personnel and Equipment
- Recovery and Maintenance Time Included
- Patterned Using U.S.Army NTC Model



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# Thrust Field Exercise



- 5 Day Exercise
- 72 Hour Continuous Chem/Bio Crisis and Consequence Event
- Trains Prolonged Operational and Logistical Sustainment of the CST's
- Detection and Sampling Challenges of Live Chem/Bio Agents Offered at the West Desert Labs



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# *Biological Sampling & Detection Course*



- Identified Need for Specific Biological Training!
- 4 Day Course
- Students Work with Live Agents in Bio-Safety Level 3
- Training Includes:
  - Hand Held Assay (HHA)
  - Polymerase Chain Reaction (PCR)
  - Enzyme Linked Immuno Sorbent Assay (Elisa)
  - Origen® (ECL)



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# *Chemical and Biological Survey Course*



- Survey team members only!
- 4 day course
- Repeated sampling of Chemical/ Biological Agents (BL3, Dilute Live Chemical, & Simulants)
- Focus is on presumptive detection, sampling, sample preparation & sample tracking.
- Team members will learn and practice best techniques of contamination control



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## *Real World Scenarios*



- Terrorist and non-terrorist Chemical/ Biological events
  - Tailored
  - Realistic
- Large and Small scale Chemical and Biological weapons production/storage
- Terrorists dissemination devices
  - Unmanned Aerial Vehicles (UAVs)
  - Improvised Explosive Devices
  - Agricultural Sprayers



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## *Team Building Opportunities*



- Complete Team involvement
- Challenge teams to think through all aspects of a Chem/Bio incident
  - Deployment to incident site
  - Detection and sampling of Chemical/ Biological Substances
  - Additional on-site Analysis of substances
  - Medical, Communications, and logistic Tasks
- Exercise Interface between CST and Civilian Emergency Responders/Agencies



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## *Field Exercise Players*



- Participating Response Elements Local Police, and Fire
  - Local HAZMAT
  - FBI, and FBI HRMU
  - FEMA
  - State Emergency Management
  - Local Medical and Public Health Services
- Various “victim” role players used as necessary
- Civilian Local Responders Participation
  - CST’s encouraged to bring civilian counterparts from their region to participate in the exercise.



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## *CW Agents and Simulants*



The controlled use of dilute chemical live agents and simulants to fully test detection, protection, and decontamination techniques and equipment

- *Nerve Agent Simulants*
  - Triethyl Phosphate (TEP)
  - Diethyl Malonate (DEM)
  - Acetic Acid
- *Blister Agent Simulant*
  - Methyl Salicylate
- *Dilute Live Agents*
  - GA,GB,GF, VX, R33, HA,HF, L



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## *BW Agents and Simulants*



The controlled use of live biological agents and simulants to fully test detection, protection, and decontamination techniques and equipment

- *BW Simulants*
  - BG
  - *Erwinia herbicola*
  - Ovalbumin
  - MS2
- *Vaccine Strains*
  - *Bacillus anthracis*
  - *Francisella tularensis*



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## *Completed Training as of 19 April 01'*



- RC 00-1 FTX, 8th (CO) CST, June 00'
- BSDC 00-1, 4th (GA) CST, June 00'
- BSDC 00-2, 1st (MA) CST, Aug 00'
- BSDC 00-3, 10th (WA) CST, Sept 00'
- BSDC 01-1, 9th (CA) CST, Oct 00'
- BSDC 01-2, 2nd (NY) CST, Nov 00'
- BSDC 01-3, 8th (CO) CST, Nov 00'
- BSDC 01-4, 5th (PA) CST, Dec 00'
- RC 01-1 FTX, 2nd (NY) CST, Dec 00'
- RT 01-1 FTX, 9th (CA) CST, Jan 01'
- CBSC 01-1, 9th (CA) CST, Feb 01'
- CBSC 01-2, 4th (GA) CST, Feb 01'
- RT 01-1, FTX, 9th (CA) CST, Jan 01'
- CBSC 01-1, 9th (CA) CST, Feb 01'
- CBSC 01-2, 4th (GA) CST, Feb 01'
- BSDC 01-5, 71st (IA) CST, Mar 01'
- RC 01-2 FTX, 4th (GA) CST, Apr 01'
- CBSC 01-3, 3rd (PA) CST, Apr 01'

**BSDC = Bio Sampling and Detection Course**  
**CBSC = Chem/Bio Survey Course**  
**RC = Raid Challenge**  
**RT = Raid Thrust**



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## *CST Training Scheduled as of 29 Mar 01'*



- BSDC 01-5, 71st (IA) CST, Mar 01'
- RC 01-2 FTX, 4th (GA) CST, Apr 01'
- CBSC 01-3, 3rd (PA) CST, Apr 01'
- BSDC 01-6, 7th (MO) CST, Apr 01'
- BSDC 01-7, 91st (AZ) CST, May 01'
- RC 01-3 FTX, 8th (CO) CST, May 01'
- RT 01-2, FTX, 9th (CA) CST, May 01'
- RC 01-4, FTX, 5th (IL) CST, May 01'
- BSDC 01-8, 3rd (PN) CST, Jun 01'
- RC 01-5, FTX 71st (IA) CST, July 01'
- RT 01-3, FTX, 9th (CA) CST, Aug 01'
- RC 01-6, FTX, 10th (WA) CST, Aug 01'
- BSDC 01-9, 103rd (AK) CST, Aug 01'
- RC 01-7, FTX, 3rd (PA) CST, Sept 01'
- BSDC 01-10, 9th (CA) CST, Sept 01'
- RC 01-7, FTX, 71st (IA) CST, Oct 01'
- CBSC 01-4, 6th (TX) CST, Oct 01'
- RC 01-8, FTX, 6th (TX) CST, Nov 01'
- BSDC 01-11, 52nd(OH) CST, Nov 01'
- CBSC 01-5, 52nd(OH) CST, Dec 01'

**BSDC = Bio Sampling and Detection Course**  
**CBSC = Chem/Bio Survey Course**  
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## *How We Can Make it Better*



- Expand and Improve Use of Simulants
- CST Feedback on needs and requirements
- Expand and Improve Existing Training Facilities.
- Dedicated Staff to support Mission.
- New Equipment Testing and Training.
- Institutional Support



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# *Summary*



- Dugway Proving Ground has more credibility and experience than anyone else in chem/bio defense (Over 50 Years).
- Dugway is approved for open air release of chemical & biological simulants.
- Best possible subject matter experts.
- Opportunity to gain equipment confidence by live agent challenges.
- “One-Stop” Total Training Opportunity

